INDEX—VOL. VIII.

Another Immense Tunnel, 2.
A Stream of Malachite, 3.
Another Experiment in Aerial Navigation, 4.
A New Blasting Powder, 17.
A Gas Company Fined, 20.
Anthracite Coal for France, 21.
A Monster Enterprise, 32.
A Peat Gas Furnace, 36.
A Petrified Australian, 36.
American Antiquities, 50.
A New Kind of Fuel, 52.
Artificial Gas Coal, 68.
Anthracite Used as Medicine, 81.
American Enterprise in South Am., 83.
A Kerosene Telegraph, 115.
Applied Science, 132.
A new Stellar Spectroscope, 145.
An Iron Mountain in Sweden, 179.
A Mineral Belt, 194.
A Powerful Source of Artificial Light, 196.
Auriferous Ores and Sodium Amalgam, 196.
A New Style of Ordnance, 213.
Answers to Correspondents, 216, 232, 248, 264, 280, 296, 312, 328, 344.
Another Serious Colliery Explosion, 230.
A Wonderful Cement for Iron, 277.
Ashcroft's Portable Water Detector—Illus, 336.
Archimidean Screw Ventilator–Illus 337
Aluminium, 371.
A Matter of Fuel, 373.
A Romantically Situated Mine, 376.

Brevities, 4, 21, 48, 52, 80, 85, 101, 180, 229, 275, 292, 324, 341, 357, 374.
Brayton's Patent Steam Generator—Illustrated, 33.
Beath's Reducer and Amalgamator—Illustrated, 65.
Bone Black, 128.
Bessemer Steel—Lake Superior Iron 163
Banquet to Cyrus W. Field, 164.
Bessemer's Process for Steel Making, 242
Bessemer Iron, 242.
Bessemer Steel Rails, 275.
Burning Oil, 321.
Beaumont's Rock Tunnelling Machine at the Paris Exposition, 371.

Coal Waste, 3.
Cannel Coal in the United States of Columbia, 51.
Colorado Mining, etc., 64.
Crushing a Silver Wall, 65.
CORRESPONDENCE—
Utilization of Gas House Lime, 68.
The Ignition Test of Petroleum, 84.
Sodium Amalgam Process, 116.
Oil in the West, 133.
Shall I put a Pump in my Well? 133.
Plastic Slate Roofing, 149.
" " " 165.
" " " 181.
Nicholson Pavement and P. Slate, 197
Durability of Mastic made of Coal Tar and Sand, 214.
The Gold Mines of Vermont, 214.
Plastic Slate, 229.
" " 245.
Prof. Wurtz's Working Experiments with Sodium Amalgam—Big Results from Colorado Sulphurets, etc., 962.
Mineral Resources of the Pacific Coast, 277.
Detaching Carbon from Retorts, 293.
Air in Gas, 293.
Gas Works at Brazil, 325.
Gas in 1816 and 1867, 341.
Plastic Slate *vs.* Fire, 357.
Compasses in Iron Ships, 115.
Cheeseman's Solid Wood Trays for Gas Purifiers 129.
Concrete Foundation, 132.
Crushing and Stamping Superseded, 132
Copper and Gold Mines in St. Domingo, 163.
Cheeseman's Solid Wood Trays for Gas
Combustion of Fuel in Furnaces, 178.
Cause of the Smell of Hydrogen Gas, 194.
Charcoal as a Preservative of Wood, 211
Chemical Action of Water in the Formation of Mineral Veins, 241.
Central Pacific R. R—Cars Running, 281
Croton Water, 306, 323, 338.
California Copper Mines, 309.
Carbonic Acid Gas as a Fire Extinguisher, 354.
Carbon, 355.
Curious Facts in Science, 372.

Don't Sell Peat Swamps, 2.
Dividends, 2.
Discoveries of the Last Fifty Years, 37.
Dr. M. C. Davis' Sheep Shearing Machine, Illus. 191.
Destructive Fires—Plastic Slate, 229.
Deodorizing Petroleum and Mineral Oils, 293.
Drying Peat, 310.
Danger of Our Artificial Lights, 370.

EDITORIALS—
Our Journal, 8
The Great Coal Monopoly, 8.
Prospect Park, Brooklyn, 8.
A Novelty in Navigation, 8.
Gas Explosion in Avenue A, 8.
Brooklyn Water Works, 8.
Heat Produced by the Agitation of Water, 9.
Mining Interests, 24.
"Economy is Wealth," 24.
Petroleum in Ulster County, 24.
City Directory, 24.
New Hydraulic Gas Main, 24.
Thompson's Gas Controller, 24.
Improvements in the Manufacture of Illuminating Gas, 40.
The Atlantic Cable, 40.
Montreal Water Works, 40.
Amalgam Sample, 40.
The Author of Public Drinking Fountains in New York, 41.
Brooklyn Tube Works, 56.
Complimentary Resolutions, 57.
Coal Fuel—Its Economy and Substitutes, 56.
The Chicago River to be Tunnelled, 57
An Amalgam of Magnesium, 57.
Webster's Patent Wrench, 64.
Gwynne's Process of Manufacturing Gas at Elizabeth, N. J., 72.
Quality of Gas Supplied by Gas Companies, 72.
The Mining Region of Ulster, 72.
Danger from Petroleum in Large Quantities, 72.
A Remarkable Chinese Bell, 72.
Stanley's Desulphurizer, 72.
New Books, 72, 89, 105, 201, 281, 344.
Nicholson Pavement, 73.
Female Inventors, 73.
Standard Gas, Carburetting, etc. 104.
Philadelphia Gas Works, 104.
Merrick & Sons, Sc[illegible] Southwark Foundry
Gefrorer's Gas Stove and Heater, 104.
Lanterns, 104.
Improved Gas Exhauster, 105.
Gold Mines of the Atlantic, 88.
Columbian Iron Works, Brooklyn, 88.
Peat in Massachusetts, 88.
School of Mines, Columbia College, 88.
Dufrene Garden of Art, 89.
Home Mines and Mining — Mineral Resources of Canada, etc., 120.
Plastic Slate Roofing, 120.
Gefrorer's Gas Burners and Lava Tips, 120.
Glycerine, 120.
Ulster County Peat, 120.
Oregon Enterprise, 120.
Prosperity of Manufacturing Interests in Paterson, New Jersey, 136.
New Hampshire Gold Mines, 136.
Plastic Slate Roofing, 136.
Utilization of Corn Fibre, 137.
Coal a Shade Higher in Price, 137.
Nevada Mines—Humboldt, 152.
How to See the Wind, 152.
Oil Petroleum Districts, 153.
The Silver State, 168.
Water, etc., 168.
The Frazee Life Boat, 169.
Turnbull's Automatic Gas Purifier, 169.
Stimpson's Scientific Pen, 169.
Silver Mining *vs.* Gold Mining, 184.
Editorial Courtesy, 184.
Gas *vs.* Coal, etc., 184.
Knight & Woodwards Cement Pipe Manufactory, 185.
Dr. Davis' Sheep Shearing Machine, 185.
The *Alpine Miner*, 185.
To Our Patrons and Readers, 200.
Culmination of the Gas Question, 200.
Knight & Woodward's Cement Pipe Manufactory, 201.
Patent Butter Packages 201.
Electricity and Telegraphy, 216.
The Value of Town Sewage, 216.
Fire Damp—Gas Explosions, 217.
Mining Shares—Gas Stocks, 217.
Atmospheric Lamp, 217.
Enameling Iron—Gas Apparatus, etc., 232.
Paper Collars—Are They Poisonous? 232.
Gas, 232.
Metropolitan Railways, Bridges, etc., 248.
Gas and Metallurgy, etc., 248.
A New Paper, 248.
The Gas Question, 264.
Ventilation, 264.
New Pedestrian Bridge, 265.
On Water Supply, 265.
Philadelphia Gas Works Investigation, 280.
Air in Gas, 280.
Journal of Applied Chemistry, 280.
Lead Pipe—Poison, 296.
Steel Rails, 296.
New Water and Sewerage Pipes, 297.
Druggists' Circular and Chemical Gazette, 297.
The Gas Question and the *Herald* 312
Igniting Point of Petroleum—Explosive Oils, 312.
Brooklyn Gas Contracts, 313.
Gas and Gas Consumers, 313.
"Air in Gas," 313.
Gas Carbon—How to Remove It, 328
Weather Predictions, 328.
Contractors for Gas Works, 238.
New Advertisements—The JOURNAL as an Advertising Medium, 329.
Foreign Letters and Subscriptions, 329.
American Portable Gas Co., 329.
Leavitt's *Peat Journal*, 329.
Ashcroft's Portable Water Detector, 329.
How to Extinguish Fires in Mines and Coal Yards, etc., 344.
Prof. Vander Weyde, M. D., as a Chemist and Inventor, 344.
To Our Subscribers, 360.
Oil Wells in Louisiana, 360.
Improvement in the Manufacture of Coal Gas, 360.
Clay Retorts, 360.
To Our Patrons, 376.
Gas Matters in the West, 376.
Electricity in a Cotton Mill, 20.
Extraction of Quinia by Coal Oil, 50.
Extraction of Vegetable Oils, 81.
Extracting the Precious Metals by means of Sodium Amalgam, 116.
Electricity from Heat—Convertibility of Force, 129.
Extraordinary Phenomenon, 149.
Extracts from the New Tax Law, 176.
Economy of Heat and Consumption of Smoke—Manufacture of Steel, 180.
Explosion at the Astoria Gas Works, 197.
"Excelsior" Rotary Pump—Illus. 225.
Extinguisher — Portable Self-Acting Fire Engine—Illustrated, 305.
Explosion of Gas in the Washington City Post Office, 309.
Effects of Oil in a Steam Boiler—Singular Phenomena, 325.
Enameling Iron, 356.

Fruit Preserver, 4.
From Colorado, 33.
Fire in the Oil Regions, 36.
From Tennesee, 37.
From Nevada County, 37.
Fire Clays and Kaolin, 51.
Foreign Scientific Items, 84, 101, 131, 164, 178.
Foster's Pat. Contracting Tap—Illus. 225.
Fire Damp in Mines, 325.

Gold in New Hampshire, 3.
Great Fire in the Oil Regions, 21.
Geological Curiosities, 49.
Gas Explosion in Water-street, N. Y., 68
Gas Purification, 130.
Gouge's Atmospheric Ventilator—Illus. 289.
Gas Explosion, 312.

Heavy Blasting Operations, 32.
Houchin's Gas Lighting Torch—Illus. 96
Hepburn & Peterson's Pan—Illus. 113.
Hydro-Geology, 179.
Hitchcock's Forge, Illus. 257.
How to Warm Houses—Illus. 260.
Humboldt Co.—Coal Oil, 165.

Improved Turbine Water Wheel—Illustrated, 1.
Improved Manufacture of Matches, 35.
Important Discovery, 68.
Immense Cheese, 68.
Important Geological Discovery in California, 113.
Improvements in the Microscope, 128.
Improved Motive Power from Gas, 145.
Interesting Statistics of the U. S., 131.
Intersection of Quartz Ledges, 149.
Idaho Quartz Crusher—Illus. 177.
India Rubber Type, 198.
Is the Water we Drink Good and Wholesome? 244.
Improvement in Steel Pens and Holders, 249.
Improved Steam Boiler—Illus. 273.
Important Communication Concerning Illuminating Gas, 302, 322.
Improvement in Water Pipes, 356.

Jones & Collins' Aero Gas Heater Burner—Illus. 289.

Linoleum, 2.
Lighting of Public Halls by Magnesium, 3.
List of Gas-Light Companies in the United States, 18, 19, 34, 35.
Large Gun for the Paris Exhibition, 41.
Large Trees, 81.
Large Load of Cal. Copper Ore, 85.
Lecture and Experiments, 196.
Life of Steel and Iron Rails, 198.
Large Sale of Pittston Coal, 249.
Latest from Oil Creek, Pa., 296.
Lindsay's Improved Wrench—Illus 353.
Mammoth Gullies, 3.
Matters in the Oil Regions, 51.
Manufacture of Tin Plate, 52.
Metropolitan Water Supply, 81.
Meteoric Showers, 161.
Mining Items, 176, 181, 230, 246.
Miller's Adjustible Teeth for Saws, 191.
Miscellaneous Items, 191, 197, 277, 358.
Mining in Australia, 198.
Mineral Specimens for the Paris Exhibition, 258.
Mining Share Market, 261, 278, 294, 309, 358, 374.
Mines of Washington and Oregon Territory, 339.
Miners' Lamps, 373.

Nitro Glycerine *vs.* Gunpowder, 19.
New Croton Water Works, 19.
New Marine Conveyance—Illus., 32.
New Plan for Submerged Cables, 33.
New Roofing, 49.
New Qualities and Alloys of Iron, 52.
Nevada Salt Mines, 117.
New Inventions and Ideas, 148, 165, 181, 278.
New Mode of Sawing Stone, 179.
New Explosive Agents, 227.
New Process for Making Oxygen, 227.
Neer's Rotary Dynamometer and Oil Tester—Illus. 241.
New Mode of Working Silver Ores, 291.
New Furnace of Great Heating Power, 356.
Natural Gas, 344.

Oil, 3.
On National Standards for Gas Measurement and Gas Meters, 82, 98, 114, 146, 162.
On a Defect in the Demonstrating Polariscope, with a Simple and Effective Remedy, 178.
Oxidation by Air, 180.
On the Combustion of Gas for Economic Purposes, 194, 210, 226, 242, 258, 276, 291, 309.
Ocean Telegraphy, 210.
On the Manufacture of Artificial Fuel, 213.
On the Future Water Supply of London, 213.
Oil Filter, 277.
On the Igniting-Point of Petroleum, 308, 324, 339.
On the Pollution of Rivers, 341.
Oil *vs.* Coal for Steam Boilers, 345.
Origin of Metallic Veins, 353.
On the Generation of Coal Gas, 354.
Origin of Lighting by Gas, 358.
On a Convenient Process for Preparing Oxygen, 369.
On a New Form of Magneto-Electric Machine, 369.
On the Carburation of Gas, 371.

Petroleum and Its Products, 2.
Petroleum as a Steam Fuel, 2, 65.
Patent Safety Gas Tap, 3.
Petroleum as an Illuminator, 4.
Petroleum in Massachusetts, 19.
Patent Claims, 4, 25, 37, 52, 80, 117, 153, 214, 230, 246, 262, 278, 294, 310, 326 342, 358, 374.
Plastic Slate Roofing, 36.
Productions of the Pacific, 52.
Process of Roasting Ores, 67, 98, 115, 131, 147, 163, 179, 195, 211, 227, 243, 259, 274, 290, 306, 325, 340.
Pittsburg Foundries, 85.
Practical Receipts, 130, 149.
Petroleum in Italy, 132.
Petroleum in New South Wales, 145.
Prof. Wurtz's Reply to Mr. Kastel, 147.
Purification of Water, 149.
Preserving Timber, 163.
Photographing Cannon Balls, 180.
Peat in Michigan, 198.
Precipitation of Metals from their Saline Solution by means of Magnesium, 209.
Plastic Slate Roofing, 259.
Petroleum Mining During the Past Season, 305.
Portable Gas-Light—Illus. 321.
Philadelphia Gas Works—Report, 322.
Peat for the Manufacture of Gas, 323.
Petroleum Lubricating Oil Works, 337.
Products of Oil, 337.
Paper Pipes and Cisterns, 355.
Progress of Science, 356, 372.
Purifying Gas by Iron Ore, 356.

Reed's Patent Consolidated Engine, 81.
Reese River, 101.
Result of Working Tests, 133.
Railroad Track-Laying Machine, 246.
Recent Inventions, 341, 373.
Roasting and Amalgamation, 372.

Sodium Amalgam, 2.
Stanley's Hydraulic Gas Main—Illus. 17.
Sodium Amalgam—It is not Explosive, 20.
Steam Jets, 52.
Slate Quarries, 64.
Self-Acting Clock, 113.
Steam Car for Street Railroads, 129.
Saul's Odorless Cooking Apparatus—Illustrated, 145.
Wurtz, Ted.
Sir Morton Peto and Our Mineral Resources, 148.
Short-Land Telegraphic Coding, 161.
Spontaneous Combustion of Coal On Board Ships, 164.
Steel Gun Barrels, 180.
Singular Molecular Changes, 194.
Steel Rails, 195.
Singular Fact in Telegraphy, 198.
Sodium Amalgam, 213.
She Goes Well, 225.
Suspension Bridge over the Ohio, 227.
Steel, 228.
Sodium Amalgam *vs.* Caustic Soda—Prof. Wurtz and the *Daily Times*, 242
Smith's Improved Lantern—Illus 273.
Size of the Earth, 337.
The Difference in Estimate, 2.
The Mines in Nova Scotia, 33.
The Chemistry of Gas Lighting, 50, 66.
The Valley of El Monte, in Cal., 51.
The Permanent Drying-up of the Mississippi, 64.
The Berdan Gun, 65.
The Comstock Lode, 67.
The Smithsonian Institute, 68.
The Coal Trade, 73.
The American Association, 80, 83, 99.
The Silver Mines of Saxony, 97.
The British Association, 99.
The Properties of Nitro-Glycerine, 149.
Turnbull's Automatic Gas Purifier—Illustrated, 161.
The Submarine Cables of the World, 163.
The Cam Quartz Breaker and Pulverizer, Illus—177.
The Sphynx, 178.
To Prevent Street Cars Running Off the Track, 178.
Thompson's Improved Gas Controller—Illus., 193.
The Roller Quartz Mill—Illus. 193.
The Conductive Power of Mercury for Heat, 198.
The "Hydraulic Propeller," 210.
The Acid Test of Iron, 226.
To Whom the Origination of the Venango Petroleum Discovery is Due, 228, 244, 260, 275, 292.
The Coal Market, 233.
To Prevent the Water in Gas Meters, Gas Holders and other Similar Reservoirs from Freezing, 243.
The Oil Trade
The America
The Origin o
ble Materi
The Gold M
The Labor C
The First G
The Under
The New S
The Water Supply of Our Great Cities, 354, 370.
The Works on the Suez Canal.
The Large
Utilization of Coal Waste, 65.
Useful Recipes, 180, 230, 294, 340, 358.

Voltaic Action, 64.
Ventilating Machines, 373.

Wonders of Chemistry, 3.
Water Meters, 21.
Woodward's Steam Pump—Illus., 49.
Who Discovered Gold, 50.
Why Does India-Rubber Erase Pencil Marks from Paper? 51.
Wood's Gas Regulator—Illus. 97.
Worthington's Duplex Steam Pump—Illustrated, 209.
White Enameled Cast Iron Ware, 258.